

CLAIMS

1. An image forming apparatus having a first  
image formation mode for forming an image on an image  
5 bearing member by using developer under a first  
predetermined image forming condition and a second  
image formation mode for forming an image on an image  
bearing member by using developer under a second image  
forming condition which is different from the first  
10 predetermined image forming condition and is set so  
that an amount of consumption of developer with  
respect to an identical image in the second image  
formation mode is smaller than that in the first image  
formation mode, said apparatus comprising:  
15       storing means for storing information for  
setting the second image forming condition  
corresponding to a plurality of levels of an amount of  
usage of the image bearing member, and  
          control means for changing the second image  
20 forming condition in the second image formation mode  
depending on an amount of usage of the image bearing  
member and information stored in said storing means.
2. An apparatus according to Claim 1, wherein  
25 said image forming apparatus further comprises  
discrimination means for discriminating an image to be  
formed, said discrimination means changes the second

image forming condition depending on an amount of usage of the image bearing member, information stored in said storing means, and a result of discrimination by said discrimination means.

5

3. An apparatus according to Claim 2, wherein said discrimination means is means for discriminating a size of a concentrated pixel area and changes the second image forming condition depending on whether  
10 the concentrated pixel area is larger or smaller than a concentrated pixel pattern having a predetermined size.

4. An apparatus according to any one of Claims 1  
15 - 3, wherein said storing means further has a second storing area for storing a plurality of levels of threshold information, and said control means changes the second image forming condition depending on information for setting the second image forming  
20 condition corresponding to a plurality of levels of an amount of usage of the image bearing member when an amount of usage of the image bearing member reaches a predetermined threshold information.

25 5. An apparatus according to any one of Claims 1 - 4, wherein said image forming apparatus further comprises exposure means for exposing the image

bearing member under an exposure operation condition on the basis of image information.

6. An apparatus according to Claim 5, wherein  
5 the exposure operation condition is an exposure time of said exposure means.

7. An apparatus according to Claim 5, wherein  
the exposure operation condition is an exposure time  
10 of said exposure means on the basis of a sensitivity characteristic of the image bearing member.

8. An apparatus according to any one of Claims 1  
- 7, wherein the information for setting the second  
15 image forming condition corresponding to a plurality of levels of an amount of the image bearing member is designation information for determining the second image forming condition.

20 9. An apparatus according to Claim 4, wherein the apparatus further comprising exposure means for exposing the image bearing member under an exposure operation condition on the basis of image information, and the information for setting the second image  
25 forming condition corresponding to the plurality of levels of an amount of usage of the image bearing member is the exposure operation condition of the

exposure means.

10. An apparatus according to Claim 3, wherein  
said control means selects the concentrated pixel  
5 pattern having a predetermined size on the basis of  
the information for setting the second image forming  
condition corresponding to the plurality of levels of  
an amount of usage of the image bearing member.

10 11. An apparatus according to any one of Claims 1  
- 10, wherein the image bearing member and said  
storing means are integrally supported to form a  
cartridge which is detachably mountable to the image  
forming apparatus.

15

12. A cartridge for being detachably mountable to  
an image forming apparatus having a first image  
formation mode for forming an image on an image  
bearing member by using developer under a first  
20 predetermined image forming condition and a second  
image formation mode for forming an image on an image  
bearing member by using developer under a second image  
forming condition which is different from the first  
predetermined image forming condition and is set so  
25 that an amount of consumption of developer with  
respect to an identical image in the second image  
formation mode is smaller than that in the first image

formation mode, said cartridge comprising:

the image bearing member, and

storing means for storing information on the  
cartridge, said storing means having a first storing  
5 area for storing information for setting the second  
image forming condition corresponding to a plurality  
of levels of an amount of usage of the image bearing  
member in the second image formation mode.

10 13. A cartridge according to any one of Claim 12,  
wherein said storing means further has a second  
storing area for storing a plurality of level of  
threshold information with respect to an amount of  
usage of the image bearing member.

15 14. A cartridge according to Claim 12 or 13,  
wherein said image forming apparatus further comprises  
exposure means for exposing the image bearing member  
and the second image forming condition is an exposure  
20 operation condition of said exposure means.

15. A cartridge according to Claim 14, wherein  
the exposure operation condition is an exposure time  
of said exposure means.

25 16. A cartridge according to Claim 14, wherein  
the exposure operation condition is an exposure time

of said exposure means on the basis of a sensitivity characteristic of the image bearing member.

17. A cartridge according to any one of Claims 12  
5 - 16, wherein the information for setting the second image forming condition corresponding to a plurality of levels of an amount of the image bearing member is designation information for determining the second image forming condition.

10

18. A cartridge according to Claim 12 or 13, wherein the image forming apparatus further comprising exposure means for exposing the image bearing member under an exposure operation condition on the basis of  
15 image information, and the information for setting the second image forming condition corresponding to the plurality of levels of an amount of usage of the image bearing member is the exposure operation condition of the exposure means.

20

19. A storing device to be mounted to a cartridge for being detachably mountable to an image forming apparatus including an image bearing member and having a first image formation mode for forming an image on  
25 an image bearing member by using developer under a first predetermined image forming condition and a second image formation mode for forming an image on an

image bearing member by using developer under a second  
image forming condition which is different from the  
first predetermined image forming condition and is set  
so that an amount of consumption of developer with  
5 respect to an identical image in the second image  
formation mode is smaller than that in the first image  
formation mode, said storing device having:

a first storing area for storing information  
for setting the second image forming condition  
10 corresponding to a plurality of levels of an amount of  
usage of the image bearing member in the second image  
formation mode.

20. A device according to any one of Claim 19,  
15 wherein said storing device further has a second  
storing area for storing a plurality of level of  
threshold information with respect to an amount of  
usage of the image bearing member.

20 21. A device according to Claim 19 or 20, wherein  
said image forming apparatus further comprises  
exposure device for exposing the image bearing member  
and the second image forming condition is information  
on an exposure operation condition of said exposure  
25 device.

22. A device according to Claim 21, wherein the

exposure operation condition is an exposure time of said exposure device.

23. A device according to Claim 21, wherein the  
5 exposure operation condition is an exposure time of said exposure device on the basis of a sensitivity characteristic of the image bearing member.

24. A device according to any one of Claims 19 -  
10 23, wherein the information for setting the second image forming condition corresponding to a plurality of levels of an amount of the image bearing member is designation information for determining the second image forming condition.

15

25. A device according to Claim 19 or 20, wherein the image forming apparatus further comprising exposure means for exposing the image bearing member under an exposure operation condition on the basis of  
20 image information, and the information for setting the second image forming condition corresponding to the plurality of levels of an amount of usage of the image bearing member is the exposure operation condition of the exposure device.

25

26. A storing device to be mounted to a cartridge for being detachably mountable to an image forming



apparatus including an image bearing member and having  
a first image formation mode for forming an image on  
an image bearing member by using developer under a  
first predetermined image forming condition and a  
5 second image formation mode for forming an image on an  
image bearing member by using developer under a second  
image forming condition which is different from the  
first predetermined image forming condition and are  
set so that an amount of consumption of developer with  
10 respect to an identical image in the second image  
formation mode is smaller than that in the first image  
formation mode, said storing device having:

a first storing area for storing information  
for setting the second image forming condition  
15 corresponding to an amount of usage of the image  
bearing member,

wherein the information for setting the  
second image forming condition corresponding to an  
amount of usage of the image bearing member is  
20 information which is used in the second image  
formation mode but is not used in the first image  
formation mode.

27. A device according to any one of Claim 26,  
25 wherein said storing device further has a second  
storing area for storing a plurality of level of  
threshold information with respect to an amount of

usage of the image bearing member.

28. A device according to Claim 26 or 27, wherein  
said image forming apparatus further comprises  
5 exposure device for exposing the image bearing member  
and the second image forming condition is information  
on an exposure operation condition of said exposure  
device.

10 29. A device according to Claim 28, wherein the  
exposure operation condition is an exposure time of  
said exposure device.

30. A device according to Claim 28, wherein the  
15 exposure operation condition is an exposure time of  
said exposure device on the basis of a sensitivity  
characteristic of the image bearing member.

31. A device according to any one of Claims 26 -  
20 30, wherein the information for setting the second  
image forming condition corresponding to a plurality  
of levels of an amount of the image bearing member is  
designation information for determining the second  
image forming condition.

25

32. A device according to Claim 26 or 27, wherein  
the image forming apparatus further comprising

exposure means for exposing the image bearing member  
under an exposure operation condition on the basis of  
image information, and the information for setting the  
second image forming condition corresponding to the  
5 plurality of levels of an amount of usage of the image  
bearing member is the exposure operation condition of  
the exposure device.

10

15

20

25